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Original Communications.

ADIPOCERE.

Read before the Massachusetts Medical Society, at the Annual Meeting, 1872,

By BENJ. H. TRIPP, M.D. Bowd.

ADIPOCERE is comparatively of rare occurrence. As most commonly found, it is the product of a spontaneous conversion of dead animal tissue into a saponaceous or fat-like substance, resembling spermaceti.

It may be produced by artificial means; and possibly also by morbid causes in the living subject, both human and brute.

In the order corresponding to these modes of its production, namely, the spontaneous, the artificial and the morbid, it is proposed to arrange the facts collated in the present paper.

The spontaneous, chemical change into adipocere is most frequently met with in the disinterment of human bodies, long buried. It occurs under various, and apparently dissimilar conditions. Certain degrees of humidity and temperature are, perhaps, the conditions most common in all reported cases. But these are obviously only accidental, or at most auxiliary, causes. Out of a large number of bodies buried under apparently precisely similar conditions, only one, or even a portion of one, may be found to have undergone this metamorphosis.

The essential cause, then, is the problem which yet remains to be solved. Accumulation of facts may ultimately lead to the discovery of the occult cause of this singular transformation; but up to the present time, scattered contributions to this common stock comprise all the results thus far reached.

Eighty-three years ago, Fourcroy, who may be regarded as the scientific discoverer of this peculiar substance, read the first memoir on the subject before the Royal Academy of Sciences; and to his researches and experiments we are largely indebted,

even at this day, for any accurate knowledge of adipocere. Since that time, other observers have added to the record important facts.

The specimen here exhibited is one of this singular *post-mortem* spontaneous change. It was obtained by the writer on the 31st day of May, 1864. A gentleman from Leicester was engaged on that day, in superintending the removal of seven bodies from the old burial-ground on the summit of the hill in the village of Rutland, in Worcester county, to the family lot in the new cemetery. He was struck with the remarkable peculiarity presented by one of the bodies, and supposed it might be a petrification. He very kindly informed me of his discovery, and I accompanied him to an examination of the body and its surroundings. The remains of each of the several bodies—consisting principally of the skulls, larger bones, fragments of the smaller bones and those portions which had undergone complete disorganization—had been carefully collected and placed in separate boxes. The body in question, however, presented a marked difference from the others. From the margin of the ribs down to the instep, this body had preserved the complete size and contour of the original form. The right arm and fore-arm, which were separated from the trunk, and in a semi-flexed position, were also in the same state of preservation. These portions, as has been stated, had preserved their normal size; indeed, the size appeared to be augmented beyond that of a body dead of a wasting, attenuating disease. The limbs were round, full and plump; the pelvis large, broad and full. The surface was black as if it had been charred. The remaining portions of this body were in the same state of disorganization with the other bodies—more or less crumbled to pieces.

Upon further inspection, it was at once evident that the change was not that of petrification, but the very rare one into adipocere. This adipocorous substance occupied the place of the original soft parts, and formed a crust or hollow investment,

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within which were loosely contained the partially decomposed bones and other substances. This crust was black in both external and internal aspects, dry, and easily fractured like hard cheese—the fractured surface having a dull white color. The specimen exhibited is a portion of the abdominal walls, and has considerably diminished by keeping eight years. It is easily melted, requiring rather more heat than spermaceti, and flowing like that substance. There is a small residuum which, on further application of heat, becomes crisped and charred like ordinary animal tissues. This is the only test which has been applied.

The history of this case before death, as furnished by a surviving sister, contained nothing remarkable. The body, which had been interred fifty-one years, was that of a female, 19 years of age, who had died of consumption of six months' duration. There was the emaciation usually occurring in this disease.

The grave was distant from the others five or six feet, and in no way perceptibly differed from them, except that it was found somewhat drier. The sub-soil is a mixture of gravel and clay, and is usually very wet—so wet that, at some seasons of the year, when graves have been excavated, it has been necessary to bail out the water, before placing the coffins therein. It was principally for this reason that this burying-ground was abandoned.

The coffin containing this body was in a state of much better preservation than any of the others, although one of the others had been buried only fifteen years. The top of the coffin had fallen in, so as to rest upon the body; but in other respects it was sufficiently intact to perfectly preserve its form. In all the other cases, there were only fragments of rotten wood, mingled confusedly with the dead bodies. With the single exception of the more recent interment named above, all the other bodies had been buried nearly the same length of time.

Numerous disinterments have, from time to time, been made in this burying-ground, within the last twenty-five years, but in no other instance has the same phenomenon been observed.

Fourcroy's cases are mostly those of spontaneous conversion, and were principally furnished by the occasion of exhuming a large number of bodies from the Cemetery of Innocents in Paris. At the time of clearing this ancient burying-place, "the remains of the human bodies, immersed in this mass of putrescence, were found in

three different states, according to the time they had been buried, the place they occupied, and their relative situations in regard to each other. The most ancient were simply portions of bones, irregularly disposed in the soil which had frequently been disturbed. A second state, in certain bodies which had always been insulated, exhibited the skin, the muscles, the tendons and aponeuroses, dry, brittle, hard, more or less gray, and similar to what are called mummies in certain caverns where this change has been observed. * * * The third and most singular state of these soft parts, was observed in bodies which filled the common graves or repositories." In those large graves which had been closed fifteen years, the coffins were found in good preservation. "When the covers of several were taken off, the bodies were observed at the bottom, leaving a considerable distance between their surface and the cover, and flattened as if they had suffered a strong compression." The bones were environed on all sides by a soft, ductile matter, which resembled common white cheese, yielding to the touch and becoming soft when rubbed for a time between the fingers. "With water, this fatty matter exhibited all the appearances of soap, and afforded a strong lather. The dried substance did not form the same saponaceous combination with the same facility or perfection as that which was recent."

It will be observed that in this description of Fourcroy's cases, which is a brief digest from his memoir, there appears a difference, in one respect at least, from the Rutland case. Instead of an expansion in bulk, here was evidently a contraction—a flattening as if from a "strong compression."

It is, perhaps, not easy to explain this seeming discrepancy. But if we admit as correct, some of the speculations indulged in by Fourcroy, and particularly his theory of a saponification, it may be suggested in explanation, that the conversion of tissue into the waxy matter, or true adipocere, is the primary stage in the metamorphosis, and is marked by increased bulk. Subsequently—and especially in situations so favorable for its elimination as that of Fourcroy's observations—ammonia may be formed by the combination of azote—an abundant principle in animal matters—with hydrogen. In the further process of change, the adipocorous matter is saponified by uniting with the ammonia, is *lessened* in bulk, and then presents the physical properties described in the memoir.

Another marked difference distinguishes

these two typical cases, namely, the character of the earth in which the interments had been made. In our rural burying-grounds, each object is surrounded by a portion of the virgin soil; and is so far isolated from others as to be uninfluenced thereby. In the other case, it was the burying-ground of a large district, wherein successive generations of its inhabitants had been deposited for upwards of three centuries; the soil was overloaded and reeking with bodies abandoned to the putrefactive process. Yet under conditions so utterly dissimilar, we find the same peculiar disorganization which destroys the original texture, and produces from its elements, a new and most permanent state of combination.

No less striking is the difference as it regards warmth and moisture. Dr. Samuel Akerly, of New York (Ed. Notes—Hooper's Med. Dict.—Art. Adipocere), states that a barrel of meat, which had undergone a change and become adipocere, was raised from the British Frigate Hussar, sunk near Hell Gate, during the Revolutionary War, where it had remained in eight or ten fathoms of salt water near fifty years. * * * * A box of candles, taken from a sunken wreck on the coast of Brazil, was changed in appearance and consistence, and had become a mass of adipocere. The bones of a huge cetaceous animal were dug up in the low grounds about New Orleans; when they were exhibited as a show in New York in 1828, adipocere was discovered in the cells of the spongy part of the jaw-bone."

In strong contrast with these instances is the one related by the same writer, where "the body of female, consisting of a solid mass of adipocere, was dug up in dry ground, near the City Hall in New York."

Dr. Draper says in his Human Physiology (p. 247) that "the change in question does not altogether depend on the condition of the earth of the grave as respects moisture or other such physical state;" that he has had "the opportunity of verifying [this fact] in the case of a subject which had been disinterred in a condition of perfect preservation so far as exterior appearance went, but which had been wholly converted into adipocere. Yet, from the same burying-ground, many other bodies were disinterred, but none had undergone a like change."

The same transformation has been observed from long exposure to the air only. Pouletier suspended a piece of the human liver in his laboratory for more than ten

years. At the expiration of this time, it was found to be changed into an imperfect adipocere.

The *artificial* production of adipocere is accomplished by three methods.

"Muscular fibre, macerated in dilute nitric acid and afterwards well washed in warm water, affords pure adipocere, of a light yellow color, nearly of the consistence of tallow, of a homogeneous texture, and, of course, free from ammonia. This is the mode in which it is now commonly procured for chemical experiments." (Hooper.) Dr. Gibbes, of Oxford, "took three lean pieces of mutton and poured on each a quantity of the three common mineral acids. At the end of three days, each was much changed; that in the nitric acid was very soft, and converted into the fatty matter; that in the muriatic acid was not at that time so much altered; the sulphuric acid had turned the other black." (Ibid.)

Immersion in running water very speedily converts muscular fibre into adipocere. Dr. Akerly states that he has "seen a piece of meat raised out of a well, by pumping, into which it had fallen, and where it was completely changed into adipocere." Dr. Gibbes also "found that lean beef secured in a running stream was converted into this fatty matter at the end of a month."

The *third* method of artificial production, namely, by long exposure to the action of the air only, is suggested by the experiment of Pouletier, already alluded to.

If the subject of adipocere has any clinical value to the physician, it must be in its possible production by *morbid causes* in the living subject. The recorded facts, however, which suggest such an inference are meagre; and, perhaps, insufficient to warrant assuming disease to be one class of the agents concerned in its production. Without, however, espousing any hypothesis of this kind, it is sufficient for the present purpose to arrange under this assumed division such phenomena as look in this direction.

While making a very limited examination of authorities on this subject, it was observed that most writers pass very readily from the discussion of adipocere, as formed by chemical change of the dead animal tissues, to a consideration of those fatty degenerations which occur through a morbid process in the living body. The connected consideration of these kindred substances seems a very natural one, although there may be a radical difference in their chemical properties, as well as manner of production.

Ambergris, which is occasionally found in immense quantities in the lower intestines of the spermaceti whale, is the result of a diseased process. It is found "to contain adipocere in large quantity, rather more than half of it being of this substance." According to the analysis of Boillon la Grange, 3820 parts of ambergris, consist of adipocere 2016 parts, a resinous substance 1167, benzoic acid 425 and coal 212.—(Hooper.)

The same substance was extracted from the rectum of a living woman in Perthshire, England, a description and analysis of which was published by Dr. Ure in a London medical journal in Sept., 1817.

Dr. Gross, in his Elements of Pathology (p. 267), describes a form of intestinal concretions, mostly observed in dyspeptic subjects, as being, "in some instances, of an irregular shape, of the consistence of inspissated tallow, slightly translucent and of a grayish-drab color; in others, they are of a globular form, nearly or quite opaque, of an adipocirous or waxy character, and of a pale yellowish, whitish or cineritious hue."

An interesting case of fatty discharges from the bowels, with the autopsic condition, communicated by Dr. J. B. S. Jackson, of Boston, is related by the same writer, in which was discharged a quantity amounting, "on an average in twenty-four hours, to about eight ounces, during more than four months, * * * * of a fatty matter in a liquid form, resembling, when cold, yellowish tallow." (Ibid. pp. 269 and 270.)

"There is a case communicated by Dr. Babington, of fat formed in the intestines of a girl, 4½ years of age, and passing off by stool." (Hooper.)

Closely allied to the various substances which have been named, is another of much practical interest, and which is much more frequently met with, namely, cholesterine. This peculiar substance which, Dr. Prout tells us, is the product of some modification of the oleaginous principle, exists in a state of solution in healthy bile; but which, in some morbid conditions of that fluid, being released from its solvent, assumes its proper crystalline form. It then becomes the basis of the ordinary biliary calculus, has a white, sometimes yellow or greenish color, and when broken, presents crystalline plates or strie, brilliant like mica, and having a soft, greasy feel. It is soluble in pure alkalies, and the solution has all the properties of a soap. It bears a strong resemblance to spermaceti, and, like that substance, melts with the appearance of oil, and is in-

flammable. "Fourcroy called it adipocere." (Ibid.)

Rutland, June, 1872.

RECOVERY AFTER FOUR YEARS' PARALYSIS FOLLOWING RAILROAD INJURY.

By S. G. WEBER, M.D., Boston.

In the latter part of July, 1867, the patient was crossing the track of the Eastern R. R. in Chelsea, riding with his sister in a wagon. The wagon was struck by the locomotive of a passing train; Mr. M. was thrown about twenty feet, had several ribs broken and was severely bruised. His sister was less severely injured and shortly recovered.

Dr. Torrey, of Beverly, has kindly given me, from memory, the following account of his condition soon after the accident: "I find on my book that I first saw him in consultation with Drs. Shackford and Forsyth, in Chelsea, near the Caryville Station, where he received his hurts, about ten days or a fortnight before, on the 14th of August, 1867. At that time he was suffering with pain, if I remember rightly, in the lower dorsal and lumbar spine, with loss of mobility and sensation in the parts below, and extinction of voice above a low whisper, although conscious and intelligent apparently. On the 28th of that month he was removed to Beverly, and from that time came under my care. He suffered greatly in the removal, and was for a few days delirious, with great febrile excitement and intense pain in the head, complained of as the delirium subsided. Extreme constipation, relieved only by active cathartics followed by injections, retention of urine requiring the daily use of the catheter, excruciating pain in the right groin, passing thence to the lower dorsal vertebrae, and total inability to move or turn himself in bed, loss of voice, with occasional aberrations of mind, were the principal features of his condition for a long time after he came under my observation. I think it was a month or more before he could move the left leg—it was many months before he could begin to move the right limb in the least degree. Sense of feeling was entirely lost on this side, and had not returned fully up to the time of his leaving Beverly for Boston."

Mr. M. has given me rather fuller particulars in regard to time, &c. He was confined to his bed about a year and a half. He had no pains in his legs; did not recover his voice fully for nine or ten months. During that time he had headaches, mostly occipital; the pain darted down the spine to the lumbar region, but was worse in the

occiput. At first, the arms were paralyzed for motion not for sensation, but in about two weeks power of motion gradually returned. He thinks that near the end of the 9th or 10th month he had some fever and was delirious. In 1869, he was carried to the court-house, in regard to a suit for damages, and became unconscious either from the motion or emotion.

Of his subsequent improvement, Dr. Torrey writes thus: "By very slow degrees, he so far improved as to be propped up in bed for an hour or two, supported by a kind of corset bandage. Gradually he became able to pass urine without a catheter, and to get evacuation of the bowels by a cathartic pill with nux vomica incorporated, and without the aid of enemata. In course of time, he was got from his bed to a reclining-chair, which subsequently became his resting-place day and night, and from which he was at last got to his crutches, and then to his basket-carriage or phaeton, for passive out-door exercise, till at last, before starting for the Carney Hospital, he could make short tours about the house and grounds on his crutches with his paralyzed limb trussed up to his belt."

Mr. M. says, in regard to his subsequent progress, that after a year from the injury he began to improve, and at the end of a year and a half got off his bed. At 14-15 months he felt a prickling in the hollow of his back, and both his legs twitched, but he had no prickling in the limbs, and there was no power to move them. Sensation and motion were both lost, and sensation was somewhat diminished in the back. He had retention of urine for nine months.

After a year and a half, he was moved from his bed to a reclining-chair, and the back of this was gradually raised till he could sit nearly upright. His left leg had been improving since a little over a year previous to my first seeing him, when he began to practise with crutches. His right limb continued to twitch, up to the time when I saw him, and he had no control over it, and could move it only slightly at the hip. The left leg had ceased to twitch. Sensation had returned to the left leg and was nearly perfect therein, and had returned somewhat to the right. The pain in the back of the head had been gradually diminishing till he had it only occasionally. If he walked much up or down hill he had the pain in his right side running round to the spine.

I saw him first on July 10th, 1871, at the Carney Hospital. He was then able to walk only as Dr. Torrey mentions, with

crutches and with his right leg strapped up; he required help to get up and down stairs. While sitting, he could raise his left thigh, could slowly extend left leg on thigh; flexion was easier; he could flex foot on leg somewhat, but could not abduct nor adduct foot, and could move the toes only a little.

The right leg could not be moved in any direction, except with a swinging motion at the hip, possibly due to motion of the trunk. In regard to sensation, heat and cold could not be distinguished with the right leg, and pinching only when it was hard.

The aesthesiometer showed a difference in the two sides:—

On the front of right thigh, two points were felt as such only at a distance of two inches.

On the left at a distance of $1\frac{1}{2}$ inches.

On the right calf at a distance of $2\frac{1}{2}$ inches two points were recognized as only one.

On the left calf at a distance of $1\frac{1}{2}$ inches two points were distinguished as such.

On pressing the points firmly on the right limb, reflex twitchings were caused; tickling the sole of the right foot was not felt and no reflex action was excited.

Pressure of points on the left side caused no twitching; tickling was felt with reflex action.

He had headache only once or twice a week, and for a little while it was severe. Sight was not disturbed. Mental application was slightly wearisome if too long continued.

It was not till a week later, July 17th, that I tested the electro-contractility of the muscles. I was surprised to find that all the muscles of the right leg and thigh acted well under the Faradaic current, perhaps not quite as well as in the normal condition; but the foot was moved in all directions and the leg was extended on the thigh. Sensibility to the current was greatest on the left, but considerable on the right, especially below the knee. On using a very strong current on the right, so as to act on the extensors on the front of the thigh, he had a sensation as of a smart blow in the right side near the lower edge of the ribs.

Without having very great hopes of a complete restoration, and doubtful whether there would be any improvement at all, I told him I thought it worth while to try the effects of a persevering and long continued use of electricity. As the muscles responded so readily, their nutrition could not be seriously impaired, and I thought it barely possible that the cord might be in a condition to recover its tone and function.

I did not see him again till early in August, at which time he had procured one of Hall's batteries, and by marking on the leg the points at which the electrodes ought to be applied, and on the bundle of rods the distance to which they should be pushed in, it was possible to leave the application of electricity to an attendant.

Sept. 14th, after thirteen or fourteen applications, it is recorded that the leg feels warmer than formerly, and that he feels the electricity more at the upper part of the thigh. The aesthesiometer showed that two points could be felt as such on the middle of the calf internally when $1\frac{1}{2}$ inches distant, externally when $2\frac{1}{2}$ inches distant.

After between twenty and thirty applications, he could move his leg by allowing the foot to rest on the floor and by abduction and adduction giving a lateral motion to the knee. In November, he had more or less neuralgic pain in the cardiac region and under the axilla. I detected, on Nov. 23d, a tenderness over the vertebrae in about the middle dorsal region, and prescribed cod-liver oil, and a blister 1×4 inches, over the tender processes. The pain was greatly relieved.

I saw him only at irregular intervals, and find it recorded on January 14th, 1872, that while standing he could flex the thigh on the body, abduct and adduct it, and while adducted and flexed could bend the knee so as to bring the right leg across the left. Trying to bear weight on the leg caused a great amount of trembling. He had again, early in February, neuralgic pains which were relieved by a repetition of blisters over tender dorsal vertebrae.

February 28th, 1872, he could walk without his crutches. He had headache, which may have been due in part to quinine which I had ordered with iron about a fortnight previously.

March 15th, 1872, I found that he had discarded his crutches, using only a cane, and he could walk very well without that.

July 1st, 1872.—The progress toward recovery has been constant, and the condition of the patient at this date may be considered that of almost complete restoration.

Early in the treatment, the power of motion in the left leg was much improved and that was soon in a condition of almost perfect health.

From the beginning, his leg has been bathed night and morning with warm water and thoroughly rubbed for half an hour, rubbing up.

During this treatment he has once or twice

had febrile attacks which he called colds, but which seemed to me to be at least complicated with nervous phenomena, due to the shaken condition of his spinal cord.

As the improvement of his leg rapidly advanced, his mental condition improved very perceptibly. Instead of being cheerful, yet desponding in regard to the final results, and having, with his cheerfulness a settled expression of sadness, he has brightened up and has evidently felt the tonic influence of returning physical health. I have seen this same influence exerted over other patients; and even in a boy 3 years of age suffering from infantile paralysis; the return of power over the limb was followed by marked mental improvement and cheerfulness.

The continuance of electro-muscular contractility after four years at once eliminates injury of the peripheral nerves as the cause of the paralysis. It also showed that the nutrition of the muscles had not been seriously interfered with. Probably, then, the lesion was not at that part of the cord whence the nerves for the legs originate. The intellect was not seriously affected, except at first for a few weeks. It is probable, therefore, that the cause of the paralysis of the right leg was in the cord between the medulla and the lower dorsal region. As the arms speedily recovered and were never entirely paralyzed for sensation, probably the injury was in the dorsal region. The nature of the lesion it is not so easy to determine. After so severe an injury, it would not be surprising to find serious and lasting lesion of the cord. This was not the case. I am more inclined to consider that there was division of nervous fibres in the white substance of the cord and perhaps the grey, that these recovered, or at least enough of them recovered their continuity so that the stimulus of electricity served to complete the restoration of their functional activity.

The question arises of the paralysis being due to a condition of hysteria set up by the shock of the injury. There are many points in which this case resembles hysteria. I cannot assent to this view, however, because that condition is most frequently seen after slight injuries, and this was much too severe, according to the statement of Dr. Torrey, a competent and intelligent observer, who saw the patient from a few days after the accident until he came under my care. Also there had been a slow advance towards recovery, and all the nervous system required seemed to be an appropriate stimulus to lead to the reëstab-

lishment of its normal functions, the actual lesion having probably healed before I saw the patient.

503 Shawmut Avenue.

Reports of Medical Societies.

ROXBURY MEDICAL SOCIETY.

ARTHUR H. NICHOLS, M.D., SECRETARY.

January 4th, 1872, Dr. Ira Allen in the chair.

Cephalæmatoma.—Dr. Garceau reported a case of two congenital tumors of the head observed recently upon a child, being of the class known as *cephalæmatoma, tumeur sanguineuse, or thrombus neonatorum*, and situated over each of the parietal bones. These tumors of new born infants are usually described as a painless, elastic tumefaction, varying in size from a hazel nut to a kidney, situated most commonly over one of the parietal bones, and rarely over the occipital or frontal bones. It has been noticed that they never extend beyond the limits of a suture or fontanelle. The scalp enveloping them is not discolored, nor can any motion be communicated to them by crying or coughing.

In the course of a few days, a firm bony ring is formed around the margin of the tumor, which can be easily felt when pressure is made with the finger. There is a wide difference of opinion as to the propriety of attempting any surgical interference with these formations. In the present case, the tumors were laid open with a bistoury: their contents, when evacuated, were found to consist of a liquid having the color and consistency of blood, but which however did not coagulate upon being allowed to stand. The contents having been entirely removed, the precaution was taken to apply a steady pressure to the seat of the swellings, inasmuch as they are otherwise apt to re-form within a few hours. With regard to the frequency of *cephalæmatoma*, Dr. Garceau said that it was of rare occurrence, one case being met with in 500 to 1000 children. He had himself seen five cases in all. In four cases he had operated as above; of these, three made a good recovery, while in one instance the parts suppurred, and death ensued at the end of a fortnight. In the case of one child, it was found impossible to obtain the consent of the parents to an operation; here convulsions appeared, and death took place on the fifteenth day after birth. The most proba-

ble cause of this affection, was the pressure applied to the fetal head during labor by the neck of the uterus. *Cephalæmatoma* is not to be confounded with vascular tumors, which are sometimes observed upon the scalp. With these there is no bony deposit about the margin, while the scalp situated over them is invariably discolored blue. It is also to be distinguished from *hernia cerebri congenita*, which has its seat over a suture or fontanelle, and never lies directly upon one of the bones of the skull. In this form of tumor, motion is communicated to the swelling, whenever the child coughs or cries, and diminishes somewhat in size when pressure is applied. Moreover the scalp surrounding it is generally thin and destitute of hair.

Dr. Allen said that he had observed one instance of the form of tumor described by Dr. Garceau. The swelling was of unusual magnitude, occupying the entire surface of one of the parietal bones. When seen by him, the child was five days old, and the tumor then seemed to be the seat of considerable pain, a symptom not often observed.

Dr. Edson remarked that he had seen two instances of this affection. There could be no doubt but that *cephalæmatoma* was composed of effused or extravasated blood and serum, occupying a circumscribed cavity beneath the pericranium.

Dr. Arnold stated that he had observed four instances of this form of tumor. The first was seen several years ago, the swelling occupying the frontal bone, and projecting over the face in a manner suggestive of the so-called *caput succedaneum*. To relieve the head symptoms from which the child suffered, he laid open the tumor, and made an application of tannin to arrest the hemorrhage which was profuse. Death ensued within a few days.

Another case had come under his observation some four months ago, where, as in the case reported by Dr. Garceau, two tumors occurred, one over each of the parietal bones. One of these tumors was treated by incision and the application of bandages, while the other was left to itself. The result was that the tumor operated upon disappeared at once, while the other was absorbed spontaneously, in the course of five or six months.

Dr. Goss said that some of the best authorities, such for instance as Vogel and Fürth, opposed interfering in any way with these tumors. If they were laid open, the periosteum was exposed to the air, which was likely to induce an inflammatory process. When left to themselves and not subjected

to either incisions, cauterizations or pressure, they were usually found to disappear by absorption within six months at the farthest. If however suppuration should take place, then of course the swelling should be treated like an ordinary abscess.

Monsters.—Dr. Edson exhibited an acephalous fetus, thought to be of about seven months' growth, and gave a full history of the case.

The mother was first seen by him on the 2d inst. The amniotic fluid was reported to have escaped while the woman was turning on her side, about 11 o'clock the previous evening. The os appeared upon examination to correspond to that of a woman seven months advanced. The *os tunc* was not open, nor had there been any labor pains. Labor began about 6 P.M. on the 3d inst., 48 hours after the flow of the amniotic fluid. Owing to the abnormal formation of the fetus, no small difficulty was experienced in determining the presentation.

With regard to the predisposing cause of this abnormal development, it was ascertained that some time during the previous August, the woman had been subjected to a sudden fright, having barely escaped being run over while crossing the street.

The relation of this case by Dr. Edson, called out the experience of others regarding monsters and monstrosities.

Dr. E. G. Morse had seen a fetus, the face of which exhibited no distinguishable features whatever. The head resembled in most respects that of a full grown fetus, but the eyes, nose and mouth were all buried in one continuous mass of edematous tissue.

Dr. Arnold had delivered a monster born after a pregnancy of 10 $\frac{1}{2}$ months; the quantity of amniotic fluid passed being enormous. The cranium was entirely absent. The skin appeared to be well formed over the entire body except upon a small spot over the lower cervical vertebrae. Here, however, was an opening communicating with the spinal cord, a portion of which projected upon the back, resembling a small pear. He was convinced by the history of this and other cases that had come under his observation, that the abnormal development of the fetus could be traced in a large proportion of cases, to some sudden fright or mental emotion.

Dr. Garceau supported this view by the recital of a remarkable case which occurred in his own practice, in which a woman having been frightened during the early months of pregnancy, by coming unex-

pectedly upon a goose, the child was born with the arms fastened behind the back, very like the mode of attachment of the wings of a goose. This deformity had been in a measure overcome by prolonged treatment, but even now the hands could not be perfectly approximated in front.

Dr. Allen reported the details of a case seen by him in which a pregnant woman had been greatly frightened by an intoxicated husband, who seized upon one of his children, and threatened to cut out his tongue. The mother was delivered of a child having a cleft palate and *no tongue*. Dr. Allen was able to recall still another instance in which a woman, while on the deck of a sailing vessel en route from Queenstown to Boston, was greatly frightened on one occasion by the sudden appearance overhead of a large sea-bird. At full term she was delivered of a monstrosity having *web-feet*, which bore a striking resemblance of those of a loon.

Medical and Surgical Journal.

BOSTON: THURSDAY, JULY 18, 1872.

"CHLOROFORM-PHOBIA" AT LYONS.

DEATHS from chloroform have been so numerous that a new case seems to attract as little notice as that of a suicide in a newspaper. Even the *British Medical Journal* appears to have relaxed its former alacrity in reporting such cases, and taken up instead the fatal results of chloral. The *London Medical Times & Gazette*, an uncompromising advocate of the deadly agent, cannot conceive of the disuse, anywhere or at any time of chloroform, solely in the interests of the patient, as is evident in the following extract from its issue of June 22d, last:

"The narrative of a case in which death occurred while under the influence of chloroform gave rise to a discussion at the Lyons Society of Medicine upon the subject of the dangers of chloroform and the innocuity of ether. Lyons, as is well known, is the only place in Europe in which the inhalation of ether is still preferred and largely practised. Why it should be so it would be difficult to conjecture."

ture, there not being there the same historical and national reason which has led to the same preference being still maintained in Boston, U. S."

"Difficult to conjecture" is it, why the Lyonnese prefer a perfectly safe and sure agent to a treacherous and often terrifically sudden fatal one! Let the Editor of the *Times* have one or two such horrifying cases among his valued and influential friends, an experience which some of us have witnessed, and the "difficulty" would vanish at once and forever. He would taunt no more the opponents of unsafe agents with "Lyonnese chloroform-phobia." In Boston the use of chloroform as an anæsthetic has been abandoned simply because it is not safe, and a physician has *no right whatever* to put his patient's life in *unnecessary* danger. "A death from chloroform," says Bennett, "is one of the most dreadful things that can occur." We do not believe, and we have some knowledge of the profession here, that there has ever been a single administration of ether, or a single rejection of chloroform in Boston for a "historical and national reason," as the *Times and Gazette* ungraciously intimates. It is because, as M. Pétrequin says, "chloroform is mortal in itself, and is alone to be blamed"—because this attribute is inherent in the agent, and is beyond the reach of preventive measures of every kind, that its employment is so much objected to, here and at Lyons. The *Times and Gazette* was greatly shocked, not long ago, that the charge of manslaughter was brought against a practitioner in Yokohama for giving chloroform with fatal effect in a case of simple dislocation of the shoulder; and called it "monstrous that a Medical Practitioner should be put upon his trial because he is the subject of an accident." Here, however, the feeling in the profession is so strong against the wickedness of its use that one guilty of such an "accident" would hardly escape conviction in the civil courts; and why should he, since there is at hand a perfectly safe and effective agent in ether—which never fails, and *never kills*. It has not, it is true, always

preserved life when given to the dying; but, we repeat, it has *never killed*, never as chloroform has killed in hundreds of cases where the individual was "in rude health" and in good condition to receive it, as in the shoulder case just alluded to, in which the death was undeniably due to chloroform alone. This cannot be too often or too strongly insisted upon. Ten years ago a Committee of eminent physicians of Boston, having "unequalled facilities," most thoroughly examined into all the cases they could find throughout the world; and reported that "there is no recorded case of death, known to the committee, attributed to sulphuric ether, which cannot be explained on some other ground equally plausible. * * * * *

This cannot be said of chloroform."

Since the Report of this Committee no case has been published in disparagement of ether of any more weight than those they reported on. In fact "not a single conclusive case of death from the proper inhalation of pure sulphuric ether" has yet occurred. We say this for the benefit of the "somewhat diffident" M. Marduel, who, we hope, will review his cases before he again deals in "discordant notes" or sweeping remarks, without offering the semblance of justification.

We give a few extracts of the Report of the discussion, to show the spirit which pervaded the meeting at Lyons:

M. Desgranges observed that with chloroform, even in a state of purity, and in the most skilful hands, there was no security from danger; and the Paris Surgeons operate before complete anesthesia is established, arousing the patient as soon as possible afterwards. Ether suffices for all operations; and no patients are refractory to it, provided ether at 85° is used—which, indeed, is not obtainable at Paris.

M. Diday cautioned the Society not to remain under any illusions on the subject; for, in spite of the goodness of the cause, ether will not triumph until the law or the legislature intervenes and snatches chloroform from the hands of the surgeon.

* Trans. Boston Soc. Med. Improvement, vol. iv, p. 216.—1862.

M. Pétrequin declared that the Society possessed an authority which it ought to bring to bear on this question, and it must not believe that its prior efforts have been useless. The fatal results from chloroform have in turn been attributed to impurity, want of skill, or the dose employed; and all without reason. "Chloroform is mortal in itself, and it alone is to be blamed." No preventive measures offer any security; and sometimes the operation put into force to meet these accidents is more formidable—tracheotomy—(for the most part uselessly performed) than that for which the chloroform was resorted to.

M. Marduel felt somewhat diffident in uttering a discordant note amidst this harmonious psan in favor of ether; but he could not forbear calling to mind that at Lyons as well as at Boston there had been several deaths from ether. He would not say that chloroform is an innocent agent, and does not want more surveillance and precautions than ether.

M. Delore, although he has had pretty extensive practice with chloroform, prefers ether because he is then less preoccupied with the anesthesia. The deaths that have been recorded as resulting from ether in no wise resemble those from chloroform. They are not so sudden (foudroyants), and a certain number of them should be attributed to hemorrhage, epilepsy, &c.

M. Verzu observed that one advantage of ether was that once pure it remained pure; while chloroform, however pure, and whatever care be taken, undergoes chemical change.

DRESSING OF WOUNDS BY OCCLUSION INAMOVABLE.—M. Ollier, of Lyons, proposes a modification of M. Alphonse Guérin's dressing, the *pansement ouaté*, so called, or complete occlusion of the wound by means of cotton, a description of which was given in the JOURNAL for April 11th ult. Recognizing the necessity of complete immobility for speedy healing of wounds as well as for calming pain, limiting suppuration and preventing subcutaneous detachments, Ollier covers the limb, including the cotton dressing, with a layer of silicate of potash, which, drying, becomes a stiff envelope.

This casing is perforated at various points, so as to allow evaporation of the moisture from the skin. In order that the purposes of the silicate dressing may be advantageously realized, the affected limb should be entirely encased, so that perfect immobility may be attained. One of the results which M. Ollier has experienced from his method has been the great diminution, often complete absence, of suppuration.

THE MILLER PRIZE.—The Berkshire District Medical Society held its regular monthly meeting at Sheffield, on June 26th, and was very handsomely entertained by Dr. J. Leland Miller. Dr. Miller explained, in reference to the prize of \$100 offered by him to members of the Massachusetts Medical Society for the best essay on "Accidental Poisoning," that he wishes the subject considered in its broadest application, and with special reference to those obscure poisons which endanger life, or impair health through the medium of food, water or air, or by unsuspected contact. Such is often the case with lead, arsenic, copper and other minerals, besides a long catalogue of plants, many of which are not yet generally known to be poisonous, and are not therefore shunned. Add to these certain noxious gases, and we have a formidable array of foes, whose insidiousness constitutes their chief danger. Dr. Miller wishes to elicit an essay which shall be more than ordinarily minute in describing these occult poisons, and in laying down practical rules for detecting and avoiding them and for applying the most effective antidotes.

Our Hospitals.

MASSACHUSETTS GENERAL HOSPITAL. *Five Cases of Paracentesis Thoracis.*

[Service of Dr. Minot.]

I.—On April 10th, 1872, W. R., an English machinist, 29 years of age, was admitted to the Hospital. He had possessed good health until a week previous, when he was taken with chills and pain in the left side. He suffered considerably from dysp-

ness, had some fever, sweating and vertigo. Pulse was 120, hard, tense and wiry. He was obliged to lie on his left side. Has had no cough or expectoration.

Physical examination, made the following day, showed the heart-sounds were loudest just to the right of the median line, where also dulness began. Percussion was flat all over the back on the left side and in front to three inches below the left nipple. There was bronchial respiration below the spine of the scapula and throughout the lateral region. Above the spine of the scapula, the respiration was faintly heard, and was absent at the extreme lower part of the back. Below the clavicle, respiration was tubular. Pulse was 128. Temperature 103° F. The left side of the chest, by measurement, was $1\frac{1}{2}$ inches larger than the right. Dover's powder was ordered at night, and on the fourth day after admission to the hospital, paracentesis was performed. About three pints of reddish-yellow serum was withdrawn, by means of Drs. Wyman's and Bowditch's syringe. The fluid coagulated into a jelly-like clot.

Almost immediately there was good percussion and respiration as low as the angle of the scapula, and friction sounds were heard in the lateral and axillary regions. Pulse was 120. The following day, friction sounds and "*bruit de cuir neuf*" were audible in the lower part of the back, and in front, there was a respiratory murmur, with sibilant rales. Percussion in front was unchanged, but in the back, though dull, it was not excessively so. Under the use of ale, cod-liver oil and a generous diet, the patient continued to improve in spite of the outbreak of occasional hectic symptoms, and was finally discharged after a six weeks' residence in the hospital in a greatly improved condition, the apex-beat of the heart being now in its normal position below the fifth rib, and the respiration being good in the upper part of the lung, though some dulness and defective respiratory action remained in the lower dorsal region.

II.—On April 30th, M. C., a nurse, native of Ireland, 20 years of age, was entered on the record. She was quite well up to a fortnight previously, when she was seized with a chill, fever, pain in the right side and shoulder, which lasted two days. Coughed somewhat, with some frothy sputa. Pulse 100. The following day, a physical examination was made. Percussion was flat over the whole of the back on the right side, with faint bronchial respiration. Voice, a mere whispering echo. In

front, also, percussion was flat, even to the apex. The displacement of the heart was slight, the impulse being a trifle too high. The next day, the third of her stay in the hospital, paracentesis was performed, and a quart of clear, yellowish serum withdrawn from the right pleural cavity. The day after, percussion was improved in front, and she was more comfortable. The second day after the operation, a faint respiration returned in the upper half of the right lung, with plenty of friction sounds below the angle of the scapula on full inspiration. Three weeks afterwards, respiration was quite audible in the back, though some dulness still remained on percussion. The pulse was reduced to 88 beats per minute, and the general condition was much improved. She was advised to use tinct. ferri perchlorid. (gtt. xv.) for some time to come, and discharged May 25th, having remained about a month in the hospital.

III.—On April 20th, T. C., a coachman, born in Ireland, 33 years of age, entered the hospital. Eighteen years previously, he suffered from haemoptysis, and during the year or two preceding the present illness, he had experienced various coughs and colds, and even at one time had "lung fever." Three weeks previous to admission, he had an attack of chills, fever and sweating, with pain in the left side, which rapidly became severe. He had some cough and a slight dyspnoea, which afterwards increased so much as to be his chief trouble. The pulse was 100, and the decubitus on the left side. Two days afterwards, paracentesis was performed, and two quarts of clear yellow serum withdrawn. The percussion, which had been flat throughout, improved directly as low as the fourth rib in front, and to midway between the spine and the angle of the scapula behind. Respiration, also, became good to the same level, accompanied by a few subcrepitant rales. More especially, the dyspnoea was relieved, and the patient was up and about soon after the operation.

A day or two after, he was put upon the chloride of iron, as in the preceding case, and discharged.

IV.—March 18th, J. D., a tailor by trade, and native of this city, entered the hospital. Born of healthy parents, and in fair condition of life, he enjoyed good health until about two weeks previously to admission, when he contracted a cough, lost his strength and appetite and grew constantly worse. Pulse, 100. Temperature, 104° F.

Inspection of the chest showed marked lack of action of left side. There was

excessive flatness all over the chest, on the left side, in front and behind, and absence of respiration gave a very obscure sound, apparently from friction, most marked over the spine of the scapula. The maximum of cardiac sounds was to the right of the sternum at the fourth interspace.

He was put upon a diuretic treatment, (*R. Potass. iod. grs. iiij. t. d. R. Potass. bitart. grs. xv. nocte*), which was continued for about a week, when, as none of the physical symptoms were abated, paracentesis was performed on the eighth day after his entrance into the hospital. Three pints of clear yellowish serum was withdrawn to the almost immediate relief of the patient, who was enabled to sleep upon the right side, which he had not done before. The pulse was 120. The day following the operation the pulse rose to 130. There were friction sounds below the angle of the scapula, and the "leather" sound was audible in the axilla and under the clavicle. The sounds and impulse of the heart had returned to the normal position.

Five days after operating, though the dulness was about the same as before puncture and no respiration could be heard with the naked ear on the left side, still with the double stethoscope a respiratory murmur was audible over the front of the chest and behind, between the spine and the edge of the scapula. In the lateral region respiration was absent. Below the spine of the scapula was a crumple on inspiration. Vocal resonance fair, though not equal to that of the right side. Vocal fremitus very good on the back. There was an improved movement of the left shoulder on inspiration, though still it was not to be compared with that of the right. The impulse of the heart was strongest below and to the left of the ensiform cartilage. Its sounds were loudest over the sternum about opposite the fourth rib. There was free diuresis, and the bowels were kept open with rhubarb. (*Pil. rhei comp. grs. x.*) Pulse still remained at 120.

Eight days after puncture, the respiration was quite audible, though soft and faint, throughout the back. No friction sounds were heard. Percussion was tolerably good in front of the chest, and during inspiration the heart was felt to the left of the sternum. A week later he was discharged from the hospital after a stay of nearly three weeks, his condition being very much improved.

V.—Admitted, April 1st, G. F. S., a teamster, who had been under treatment in the surgical wards for frequent micturition. Now passed urine nearly every hour. Three

weeks ago, after exposure, was seized with chilliness, sharp pain in left side, dry hacking cough with but little expectoration. Suffered from dyspnoea, and could not lie down long at a time. Decubitus was always left. Pulse, 96. The left side of the chest was perfectly flat on percussion, and on inspection it appeared slightly fuller to the eye. The impulse of the heart was felt just below the xiphoid cartilage. Respiration was faint and bronchial in front, and absent on the left side. Over the back, especially the lower three quarters, percussion was very flat, and respiration absent, except near the spine, where its character was bronchial. The left side of the chest measured $\frac{1}{4}$ inch more than the right. On the fourth day after his entrance, paracentesis was performed, and $2\frac{1}{2}$ quarts of clear yellow serum were withdrawn. After operating, percussion was quite resonant over the back and tolerably good in front. Faint respiration was audible throughout the upper half of the lung. The excess of measurement of the left over the right side of the chest, was reduced to $\frac{1}{4}$ inch.

Two days afterwards, there was dulness in front of the chest, above the third rib, and flatness below, but respiration though faint was perfectly audible throughout the front. In the back there was dulness and no respiration in the lower fourth, but considerable murmur above the spine of the scapula. The impulse of the heart was still below the xiphoid cartilage. Three weeks later respiration was still faint. Counter-irritation was advised, using ethereal tinct. iodine, and six weeks after entering the ward he was discharged much relieved.

A case of Diabetes and Chronic Nephritis.—[Service of Dr. Abbot.]

On May 29th, 1872, A. S., 20 years of age, born in Eastham, entered the Hospital. Her parents were healthy, and the patient was well and strong herself until within a few years. Her work was light, and she had good food and good hygienic surroundings. The catamenia, always irregular in their periods, ceased altogether three years ago. About the same time her urine increased in quantity, a condition which has continued since. To this increase was added great weakness and pain in the back. There was considerable thirst, but her appetite was good and digestion easy. Her countenance was ruddy, and she had the look of perfect health. She would sleep well, were it not for the necessity of rising several times during the night to void her urine. The skin was natural, the pulse 114,

the temperature 48° F. Her urine was very pale and nearly odorless, acid in reaction and of sp. gr. 1042. No albumen was found at this examination. No microscopic examination was made at this time. Sugar, however, was found to be present in large quantity. The amount of urine passed in the first 24 hours after entering the ward was 2 3-4 quarts.

Her right eye was totally blinded by a cataract which came on last summer. No *bruit de diable*, nor any anaemic murmur of the heart could be detected. She was ordered two grains of pyrophosphate of iron at meals and put upon diabetic diet, to wit: eggs for breakfast, bran bread and one soda biscuit at each meal. Beef or mutton with dandelion or spinach for dinner.

The following day, albumen was found to be present in the urine.

The third day after admission she had a good deal of dyspnea, with stupor and restlessness, which increased at nightfall. No abnormal signs were detected in the front of the chest or heart. Her urine was withdrawn by the catheter. It was turbid, but normal in color and odor. Sp. gr. 1021. Reaction decidedly acid. Urea almost wanting. Albumen present. Under the microscope were seen epithelial cells from the pelvis of the kidney, sugar-spores and fungus, and an abundance of granular, and some hyaline, casts.

Some sugar was still present, but by no means its previous percentage. The amount of urine for the 24 hours before death was 1 1-4 pint.

She was ordered a stimulating treatment, (R. Spt. ammon. arom. 3ss.

Aq. 3ij. M. S. quaque hora), a sinapism to the chest and a turpentine enema, but she did not rally, and died at ten o'clock the next morning, having been five days in the hospital.

Autopsy by Dr. Fitz.

There was found fatty degeneration of the kidneys, and ulcerations of the bladder. The other organs presented nothing abnormal to the naked eye. A careful examination of the brain was made with negative results.

[This case is specially interesting from the rarity of the co-existence of diabetes and chronic nephritis. It is evident that the large amount of urine passed under the influence of the former condition masked the albumen, which was readily detected when the quantity of urine was diminished by the withdrawal of sugar-producing food. The symptoms the day before her death

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had much of the character of hysteria. She was pale and breathed with difficulty and frequent groans; the extremities were cold. On being partially roused from her stupor she laid her hand on her front chest as the seat of pain, but no abnormal physical signs could be detected at the spot. She also intimated, in reply to questions, that she had had similar attacks before. There was no urinous odor in her breath.

A.]

Dilatation of Heart, with adherent Pericardium.—[Service of Dr. Abbot.]

April 25th, A. H., a mason by trade, native of the State of Maine, 60 years of age, entered the Hospital. Eighteen years ago he had typhoid fever, which was followed by some swelling of the feet and legs. Thinks his heart beat irregularly as long as 12 years ago. Has had dyspnea and occasional palpitation for some years back. Last December had some lung difficulty, apparently of bronchitic nature. Since that time has done no work, because of the swelling of his legs which followed his cough. Appetite and digestion were pretty good, bowels regular, pulse 100. The cardiac dulness began at the fourth intercostal space and extended obliquely downward to an inch and a half outside of the left nipple. The action of the heart was remarkably feeble and irregular in force and rhythm; no abnormal sound could be detected.

He was put upon tonic treatment (syrup of the phosphates iron, quinine, strichnine f3ss. S. t. d.) and afterwards broom tea was added (scoparii decoct. 3vi. S. quotidie), but as this did not produce the desired diuresis, and as the dyspnea during the third week of his stay in the hospital became aggravated, resort was had to digitalis. (R. Digitalis gr. ss. Scilla gr. Potass. nitr. gr. ii. M. ft. pil. S. t. d.) The next night he had a comfortable rest, and his pulse dropped to 90°. This effect could be sustained, however, only by increasing somewhat the dose of digitalis.

During the fourth week, the abdominal parietes became prominent and edematous, but the ascites was not excessive. Below the right hypochondrium to a line 1 1-2 inches above the umbilicus, and extending a little beyond the median line, percussion was dull; over right side of the back, particularly at the base, the resonance was deficient, though the respiratory sound was distinctly heard. He was ordered the Pulv. Jalap. Comp., which produced very free evacuations, and temporary relief. During the fifth week, the scrotum and

prepuce became very edematous, causing much pain and discomfort. The patient's strength began to fail rapidly, so that the digitalis had to be abandoned for stimulants, which were given freely, and at night spts juniper 3ss., as much as he could take with comfort. Death occurred May 26th.

Autopsy by Dr. Fitz. Heart dilated, its volume increased at least one half, the muscular walls thin in comparison with the size of the cavities, of a reddish yellow color, very friable, fatty degenerated, pericardium universally adherent. Valves healthy. About two quarts of serum in right pleural cavity and one quart in the left.

[Nothing abnormal was noticed in the liver, which was pushed down by the thoracic effusion, so as to be felt far below its usual position, as noticed a few days before death. The feebleness and irregularity of the heart's action in this case were quite unusual, and were supposed to be due, at least in part, to general pericardial adhesion, which was found after death. A.]

BOSTON CITY HOSPITAL.

I.—*Abdominal Tumor. Removal. Death.* [Service of Dr. Homans.] The patient, a woman, 40 years old, stated, on her admission to hospital, that the tumor, for which she desired treatment, first appeared three years before, in the iliac region. Its growth was gradual, but progressive, until within two months, when its increase in size was rapid. There was but little pain, although there had been within the last year some degree of "soreness" at intervals. The patient had been confined to her bed during the two months previous to her admission. During that interval, there was dyspnea, loss of appetite, constipation, edema of the feet and legs.

At the time of entrance, the girth of the patient at the level of the umbilicus was fifty-two inches. Within the walls of the abdomen a tumor could be felt, firm and without tenderness. There was albuminuria, with hyaline casts.

The operation for the removal of the growth was as follows. Under ether, an incision was made in the median line of the abdomen, extending four inches downward from the umbilicus. The tumor having been exposed, it was found to be nearly solid, no fluid following the introduction of a trochar. The size of the growth and its consistence necessitated the extension

of the incision to twelve inches. The attachment was found to be to the fundus uteri. Adhesions to the abdominal parietes and to the ascending colon, some of them very firm, were broken down with the finger or divided with the knife. The broad attachment to the uterus was severed, and the mass was removed.

Hæmorrhage during the operation was inconsiderable, a number of small arteries being tied as they were cut. The edges of the wound were apposed, silver-wire sutures were passed and a compress and bandage were firmly applied over the incision.

The tumor was fibro-cystic. One large cyst was found, containing a pale yellow fluid. The weight of the mass was thirty-one pounds.

During the six hours just after the operation, the patient was in all respects comfortable. Then nausea and vomiting supervened, the abdomen became distended, the skin was hot and dry, the pulse rapid. Remedies failed to prevent the collapse, and the patient died the day following the operation.

There was no autopsy.

II.—*Syphilis, with Extensive Degeneration Discovered Post Mortem.* [Service of Dr. Homans.] G. F., a colored laborer, aged 23, entered the hospital, during the service of Dr. Thorndike, for treatment for caries of the skull. He confessed a syphilitic history, having had the primary lesions six years before. At the time of his admission, there was an abscess over the junction of the sagittal and coronal sutures, which was discharging thin pus. It had been opened two months before. A fistulous opening into this abscess communicated with a cavius surface of bone an inch or more square. After six days of general supporting treatment, the sinus was opened freely and three pieces of loose, necrosed bone, each about the size of a split bean, were removed. Three weeks later, more denuded bone was discovered at the edge of the former disease, but the wound in the scalp gradually granulated and healed. In the beginning of the second month of treatment, a large, cold abscess over the biceps of the arm was opened. A month later the right pleural cavity was found, on auscultation, to be filled with fluid, giving rise to harassing cough and sleeplessness from dyspnea. The pulse continued above 100, and the appetite was greatly impaired. After a month, there was manifest improvement, and the patient was convalescent, so that he walked about the ward. Soon,

there followed extreme debility and diarrhoea; the pulse rose to 138. There was progressive sinking, and at the end of four months from the date of his entrance to hospital, the patient died.

At the autopsy, the following appearances were observed:—In the skull, to the left of the median line and a little anterior to the vertex was an opening, about one inch long by three-fourths of an inch wide, through which the dura mater could be seen. The dura mater was thickened and slightly adherent to the pia mater, and the longitudinal sinus was somewhat constricted by this thickening.

The tenth rib, near its sternal extremity, was enlarged and necrosed, and in the adjacent tissue there was a deposit of cheesy material, of about the size of a pigeon's egg. The articulating surface of the head of the humerus was necrosed, and there was, also, extensive necrosis of the glenoid cavity and of the acromion of the scapula.

Both lungs were adherent to the thoracic walls, and in each pleural cavity there was a considerable quantity of serum. Each lung showed scattered deposits of miliary tubercle. Some of the bronchial glands had undergone caseous degeneration.

The pericardium was adherent in all its extent, and, with the deposit of false membrane and lymph, its thickness measured from one quarter to one half an inch. The muscular structure of the heart was thin. The valves were normal.

The thyroid and thymus glands were hypertrophied; each lobe of the latter was an inch and three-quarters long, and showed cheesy degeneration.

The liver presented two large masses of caseous metamorphosis in its outer segment and two of smaller size internally. Small puckered spots on the surface indicated cicatrices of former disease.

The spleen contained a great number of large and small, deep and superficial spots of caseous degeneration. Both kidneys showed appearances of commencing parenchymatosus disease. The mesenteric glands were enlarged. In the small intestine there were several small ulcerations, and near the cecum an ulcer of larger size. The solitary glands in the immediate vicinity of these ulcerations contained cheesy deposits.

Compound, Comminuted Fracture of Metatarsus. Amputation. Death.—[Service of Dr. Ingalls.] The patient, a man about 44 years of age, and addicted to the excessive use of alcoholic stimulants, fell while attempting to get on board a train of cars which was in motion, and a wheel passed

over the right foot, causing a compound, comminuted fracture of all the metatarsal bones except that of the little toe. The tarsometatarsal articulation was laid bare, and there was considerable laceration and contusion of the soft tissues. The finger could be passed under the skin from the dorsum down to the sole of the foot and on each side back to the ankle. The haemorrhage had been trifling.

The patient was etherized, and amputation was performed in the lower third of the leg. Cotton wool was placed between the flaps, and after they were approximated the lower portion of the leg was enveloped in the same substance, a light, loose bandage being applied over the whole. The patient recovered well from the shock of the operation.

Six days after the operation, the flaps began to assume a sloughy appearance, and two days subsequently the patient had a chill, followed by nausea and vomiting, with a pulse at 116. Quinine and stimulants were given. He continued to have chills almost daily, and complained of constant nausea and vomiting. The sloughing of the stump continued to increase. The patient gradually lost strength, and died thirteen days after the injury.

Three Cases of Sunstroke. Recovery.—[Service of Dr. Edes.]

I.—The patient, a young man 21 years of age, while exposed to the sun, on July 1st, suddenly became unconscious. He was immediately taken to the hospital, and when he arrived there was in a condition of active delirium. There was intense congestion of the face; the pupils were normal in size, but not influenced by light; the skin was of a burning heat; respiration was hurried and labored; pulse 120, full and bounding.

The surface of the body was sponged with water; ice-bags were applied to the head; leeches to the temples; wet cups to the back of the neck, and sinapisms to the feet. One drop of croton oil was also administered. The patient was catheterized, and nearly a pint of urine was drawn off. Two hours after entrance he became conscious, but complained of dizziness and pain in the head. He slept nearly all night, however, and in the morning had recovered, with the exception of a slight headache. The patient remained in the hospital three days, when he was discharged, well.

II.—A second case of insolation was admitted to the hospital on the same day, presenting symptoms different from those of the previous case in many particulars. The

patient was a laborer, 40 years of age, who, after working all day in an exposed situation, became comatose. His breathing was stertorous, pupils very much contracted, face flushed, and pulse 164. The treatment consisted in the application of ice-bags to the head, with local bleeding by means of leeches to the temples and by cups to the nape of the neck. Enemata of carbonate of ammonia and brandy were given. The surface of the body was frequently sponged with alcohol and water in equal parts. Three hours after the commencement of the treatment, the condition of the patient had much improved. His breathing was easier, and a slight degree of sensibility had returned to the extremities. Pulse 100. There were, however, spasmodic movements of the feet and hands, with constant moaning, as if from pain. Although there was some difficulty in swallowing, forty grains of bromide of potassium and one-eighth of a grain of sulphate of morphine were administered by the mouth. The patient passed a comparatively quiet night, and in the morning he was perfectly rational, although he talked slowly and somewhat indistinctly, and complained some of dizziness. On the third day after admission there was a slight diarrhoea, which was relieved by laudanum and starch injections. His condition gradually improved, and now, although in the hospital, he is nearly well enough to be discharged.

III.—The third case presents a few points of interest, although it was not treated at the hospital from the outset. In this instance the patient, a young man, walked from his residence to his place of business, a distance of nearly four miles, a portion of the way across a long bridge, during the hottest part of the day on July 1st. On arriving at his store, he went into the cellar and immediately fell asleep. He was aroused after he had slept nearly two hours, and he commenced to attend to his customary duties; but he soon had a convolution which, after a short interval, was followed by another. A physician was called, who administered ether, which diminished the violence of the convulsions. His pupils at this time were very much contracted, skin livid, lips blue, and head intensely hot. Pulse 150, full and strong. Ice-bags were now applied to the head, and a leech to the temple. During the following half-hour, the frequency of the pulse had much diminished, and the patient had become conscious, recognizing those about him. He soon sank into a sound and quiet sleep, in which condition he continued until the

evening, when he was sent to the hospital. The excitement of the removal threw him into another convolution, which was, however, subdued by the administration of ether. The following morning, he appeared perfectly well, but was kept under observation at the hospital for a day or two and then discharged.

THE SMALLPOX DEPARTMENT of the City Hospital, located on Albany Street, had, originally, accommodations for only twelve patients, and all those treated there were required to pay fifteen dollars per week for medical attendance, board and nursing. All those unable to pay this amount were sent to Quarantine Hospital at Gallup's Island if they could be moved without endangering life.

Up to November, 1871, the accommodations were sufficient for all paying patients and for those unable to be removed, as there had been up to that time during the year only occasional cases of variola in the city, many of these being recently arrived emigrants who had received the contagion on shipboard during their ocean passage. The disease was quite prevalent in Lowell during the summer, and many became infected from that source.

Nothing like an epidemic existed prior to November last, when the disease sprang up in certain localities of the city, mostly confined to Cabot street, at the Highlands, and Athens, Bolton and Silver streets, South Boston. The numbers increased so rapidly, and the weather became so unfavorable for the removal of patients to the "Island," that the Trustees were authorized to keep non-paying patients at the hospital. Under this new system, every bed was soon filled, and the only resource left was an old building in the same yard, formerly occupied as a Cholera Hospital; this was partially fitted up and opened for the reception of patients.

Since that time about four hundred cases have been admitted, the largest number at any one time being fifty-one. The Smallpox Hospital has been used for the severe forms of the disease, while the Cholera Hospital has been occupied by convalescents and by those having the very mildest forms of the disease. At the close of the year ending May 1st ult., the mortality rate was nine per cent. Since that time the type of the disease has been much severer. The hot weather and over-crowded wards have contributed to increase the death-rate to something over twelve per cent. Some of these cases were not inmates of the hospital more than twenty-four hours, as they were moribund on admission; others were in the ad-

vanced stages of phthisis before contracting the disease. These allowances would reduce the deaths from uncomplicated smallpox to a much less per cent. It is to be noted, also, that quite a number of the milder cases were transferred. The general plan of treatment has been nourishing, with tonics and stimulants when required. Morphine was administered freely during the secondary fever. During the primary stages, little or no medicine has been given, except mild cathartics, with Dover's powder or hydrate of chloral to produce sleep.

In the hemorrhagic forms, tinct. ferri chloridi, quinine, tannic acid and ergot have been used early. To relieve the high temperature, quinine in large doses, and frequent sponging have been resorted to, and, in cases of children, a tepid bath, gradually reducing the temperature of the water and with it that of the patient. There have been no bathing facilities to try the effect of this treatment on adults, but it has produced a favorable effect on children. Quinine, however, has been considered the sheet-anchor to reduce temperature, in large and frequently repeated doses. However large the dose may have been, patients have not complained of any disagreeable feelings from its use. Patients thoroughly under the influence of quinine, except in cases of delirium tremens, have been very seldom delirious. Xylol has been faithfully tried, but almost invariably it produced such an irritable condition of the stomach that the agent was discontinued; and in those cases in which it has been used throughout, it has shown no superiority over other remedies. Bisulphite of soda has also been used, and discontinued for the same reason as the xylol.

For local application, sulphuret of lime has been used extensively, and patients are sponged with it two or three times daily; it cools the surface and relieves all itching, and patients frequently call for it, although the odor is rather unpleasant. When desquamation has commenced, the following application is made two or three times daily:

R. Acidi carbol. crys. 3ij;
Glycerine, 2*ss* 3ij. M.

This softens and relieves all tension of the skin, and the crusts are allowed to fall off without any desire on the part of the patient to aid the process by scratching.

After the crusts have fallen off, the patients are allowed to bathe their faces frequently with some alkaline lotion, generally of soda bicarb. Not more than five or

six patients during the present epidemic have been badly marked.

UNITED STATES MARINE HOSPITAL, CHELSEA, MASS.

Dr. A. B. Bancroft, Surgeon in charge.

This institution is for the relief of the sick and disabled seamen in our merchant service, and is under the supervision of the Treasury Department at Washington. The hospital is situated on a high hill overlooking the city of Chelsea, and having a fine view of Boston harbor. The building, which is of brick, and of an imposing external appearance, is well adapted for its purposes, although the addition, internally, of some of the modern improvements would contribute to the comfort of the inmates. About 130 patients can be accommodated here, although at the present time there are only fifty.

In the winter, however, the hospital is nearly always full. Good ventilation, from the high and exposed site of the building, is easily maintained, and erysipelas and other diseases consequent upon impure air are of very infrequent occurrence.

Malarial fevers and other diseases incident to warm climates, phthisis, rheumatism, acute and chronic, Bright's disease, typhoid fever and syphilis, are the principal diseases that are here represented. Sailors seem particularly disposed to Bright's disease, perhaps from the fact that the sudden exposure to cold and dampness, which the nature of their occupation requires, may, by suddenly checking the secretion from the skin, throw extra work upon the kidneys, and in persons debilitated by excesses both in eating and drinking while on shore, may be the exciting cause of the disease. The acute form is not as frequently seen here, as the chronic. The line of treatment in the acute form, has been jalap and cream of tartar powders when there was much edema and the urine was scanty. Tincture of digitalis and some of the milder diuretics have been used with advantage in some cases. If the uremic convulsions were very violent, ether has been administered. The diet has been nourishing and at the same time that which could be easily digested, such as eggs and milk.

When it was deemed advisable to administer stimulants the malt liquors have been used in preference to the distilled. Vapor baths were tried in several cases, but were of doubtful advantage. In the chronic variety a general supporting

treatment has been adopted, with the result of prolonging the life of the patient. Tincture of the chloride of iron, the citrate of iron and quinine and sulphate of quinine have been the principal drugs administered. Particular attention has been paid to bathing, in order that the skin might be kept in as healthy a condition as possible. The improvement in many cases has been marked, but this must be attributed in part to the removal of the patients from the exposure, coarse fare and uncomfortable quarters incident to a life on shipboard to the comforts of a hospital.

Chambers's treatment of acute rheumatism was adopted during one year, from Aug., 1869, to Aug., 1870, and although the number of cases treated during that time was not sufficient to warrant any very important deductions, the severer symptoms seemed to be relieved sooner by this treatment than by any other. Chronic rheumatism, of which there has been much more than of the acute form, has been treated with iodide of potassium, counter-irritation to the affected joints (either by blisters or tincture of iodine), and generous diet. In almost every case the patients have been much relieved. Alkaline baths were also tried in a few instances with very good results.

THE CHILDREN'S HOSPITAL,

Located at the corner of Washington and Rutland streets, has thirty beds for young children, twenty-seven of which are now occupied, this being about the average number. More surgical patients have been usually received than medical, and many cases of hip disease have been recovered from, or greatly benefited at this Hospital. Some are now there under promising treatment. Rest, extension, generous diet, and suitable adjuvants are the principles of treatment. In one of the wards is a case of severe crushing of thigh and leg in a child three and a half years old; the injury involved the inner parts of the limb, tearing the soft tissues extensively. The case is now progressing remarkably well.

Scarlet fever appeared a few weeks ago in a patient who had not left its room, hardly its bed, for months, without any known or discoverable exposure from without. Two others broke out with the same disease three days later. All were removed, and no other case has as yet occurred.

In the same way measles appeared last

spring, and seized upon seventeen inmates. A method of preventing such diseases, if known, would be a great boon to this and similar institutions.

BOSTON DISPENSARY FOR SKIN DISEASES.

This Institution has been in existence between five and six months. During this time nearly 600 patients have been treated, an average of eight new cases daily, as the dispensary has been open only Mondays, Wednesdays and Fridays. Through the summer, it will be open on Wednesdays only.

The fact of the existence of this Dispensary was for a few months kept before the public by means of advertisements. It was found necessary to discontinue these, the number of patients presenting themselves becoming greater than could be treated with justice to each one. The position of assistant physician will be offered in the autumn to the younger members of the profession. Several exceedingly rare and interesting cases have been met with.

The patients, almost without exception, come from South Boston and the adjacent districts of the city proper farthest from the hospitals, precisely the class for the benefit of which the Dispensary was organized, though a few patients from other States have also been sent for advice. Patients able to pay receive cards inscribed with the names of the dermatologists of the city in the order of their seniority.

Students of the medical school will be admitted in the autumn, and every assistance will be given to those interested in this most important branch of medicine.

The Institution may be considered a self-supporting branch of the General Dispensary as it now exists, or the nucleus of the General Dispensary of the future, the opinion of its founders being that a General Dispensary is not a place where every kind of disease may be sent for treatment, but where the best treatment possible is offered by specialists in every branch to whatever class of diseases may be presented.

DEER ISLAND HOSPITAL.

At this hospital (almshouse), under the charge of Dr. S. H. Durgin, who is also Port Physician, are collected a number of cases of the various ailments incident to all ages from infancy to old age. The number and variety of these cases make this hospital a most desirable residence for any medi-

cal student who expects to devote himself to general practice. At present, there is nothing of special interest to advanced practitioners unless we except a few cases of fracture, and of Bright's disease, or a few good examples of extensive impetigo.

Dr. Durgin, not long since, performed, at the almshouse, the somewhat singular operation of extracting a hair-pin from the urethra of a man, by perineal section. The healing was complete, and the recovery of the functions was perfect. It is not improbable that at some future time the case may be reported at length.

In full view of Deer Island is the new Quarantine Hospital at Gallup's Island, where the sick, removed from ships as they come into harbor, are taken care of and treated until it is proper for them to go up into the city.

THE EXPECTANT TREATMENT IN ABDOMINAL PREGNANCY—PERFORATION OF THE UTERUS WITH THE SOUND.—In a letter from Vienna by Dr. Englemann (St. Louis Medical and Surgical Journal) the history of a case of abdominal pregnancy, under the charge of Prof. C. Braun, is given. The patient died from peritonitis a few days after the uterine sound had been introduced, entering quite deeply, the point to be plainly felt apparently just beneath the abdominal walls. Professor B. believing that the instrument had entered one of the oviducts. The post mortem showed that the uterus was completely perforated at one point, and almost at another, and that the uterine openings of the oviducts were only sufficient to admit a fine probe. Dr. Martin believes those cases usually described as soundings of the oviducts were really perforations of the uterus. In cases of abdominal pregnancy Dr. M. usually prefers the expectant method, because he considers the operation for the removal of the child and secundines exceedingly dangerous, much more so than the Cæsarean operation of ovariotomy; and that it is better to wait quietly, trusting that the fetus may perish and become encysted or be eliminated by a process of suppuration.

The fact that in the Vienna case given above, the uterine sound, in the hands of one of the ablest obstetricians and gynecologists in the world, perforated the uterus, and this too when the operator believed, until an autopsy told the truth, that the instrument had passed into an oviduct, should impress every one with the utmost caution, not only as to the cases in which

this instrument may be used, but also in the manner of using it.

PARACENTESIS PERFORMED IN A CASE OF ASCITES ONE HUNDRED AND THIRTY-SIX TIMES.—Drs. Haymaker and Graham, of Oregon, Ind., communicate the following extraordinary case: "Mrs. Christiana Gyer, aged sixty-one years, mother of three children, suffered in the summer of 1853 from edema of the lower extremities, which was soon followed by ascites. Under the use of medicines the effusion disappeared. In the spring of 1854 the ascites returned, and became so urgent that she was tapped, in May, by Dr. Morrison, of Lexington, Ind., and ten gallons of fluid removed. Since that time she has been regularly tapped by her husband, at intervals of from six to twelve weeks, an average of five gallons being removed at each operation. She has now had paracentesis abdominis performed one hundred and thirty times in less than eighteen years, and the enormous amount of six hundred and eighty-five gallons thus removed. This patient takes no medicine, does all her own house-work, and bids fair to live to be a hundred years old."

This certainly is a remarkable history. More than twenty-one barrels of fluid from the peritoneal cavity—or, putting the matter in weight instead of measure, some six thousand eight hundred and fifty pounds—in less than eighteen years! We feel like following the sentence by at least half a dozen exclamation points. It certainly is more remarkable than the noted case of Dr. Mead's; for his patient, a female, had only about two thousand pounds removed in seven years and six months; and, then, she died! Thinking that she had a most wonderful experience, in her will she directed that the fact mentioned above should be recorded upon her tombstone. Fortunately, she cannot be disturbed by the fact that Mrs. Christiana Gyer, having the same disease, has lived with it more than twice as long, and has had extracted from her nearly five thousand pounds more.

Cann reported to the Academy of Medicine, Paris, 1842, the case of a female with ascites fifteen years, who was tapped eight hundred and eighty-six times; and was cured. Our Indiana case must yield to this.

—*American Practitioner.*

AN ANCIENT UNIVERSITY.—The University of Oxford celebrates its one thousandth anniversary this summer.

Medical Miscellany.

THE CITY SMALLPOX HOSPITAL.—We observe that a petition has been presented to the City Aldermen asking the removal of the Smallpox Hospital on Albany street, because of its alleged dangerous proximity to places of business which have been established since the hospital was opened.

Will those who have control in such matters, give any good reason why the Albany street pest-house is kept over-crowded while the harbor accommodations, the hospitals on Deer Island and Gallup's Island and Rainsford Island are almost empty? Certainly, all the advantages of good air, abundant room and quarantine, belong to the latter places.

ANNUAL MEETING OF THE IOWA STATE MEDICAL SOCIETY.—The twentieth annual meeting of the Iowa State Medical Society was held at Des Moines, June 26th and 27th, 1872.

A new Constitution and By-Laws were adopted, making it a delegated body in the future. The attendance was fair, and there evidently is an increasing interest felt in the profession throughout the State in regard to the success and usefulness of the Society.

INCREASE OF HEART DISEASE.—Dr. Quain, of England, in his Lumleian Lectures at the College of Physicians on "Diseases of the Walls of the Heart," states that during the last twenty years the total of death of males, at all ages, from heart diseases, has increased in number from 5746 in 1851 to 12,427 in 1870. The percentage of deaths from heart diseases for one thousand of population living was .755 between the years 1851 and 1855; it had risen to 1.085 from 1866 to 1870. This increase has taken place wholly in connection with the working years of active social life. There is no change in the percentage of deaths from this cause in males under twenty-five years of age.

THE TRUSTEES OF THE MASSACHUSETTS STATE LUNATIC HOSPITAL.—have appointed Dr. Bernard D. Eastman, of Washington, D. C., as superintendent, in place of Dr. Bemis, resigned. Dr. Eastman has won a reputation in this specialty of the highest order, having been for some time connected with the New Hampshire State Asylum, and for the past seven years with the Government Hospital for the Insane at Washington, in which Institution he now occupies the position of first assistant superintendent. Dr. Eastman will enter on his duties about the 23d instant. The trustees have also appointed Dr. John G. Park, of Worcester, to the position of assistant superintendent.

MEDICAL WITNESSES, it seems, get better served abroad than hereabouts. The following is from a late number of the *British Medical Journal*:

"Two medical witnesses from America, be-

fore the Habitual Drunkards' Committee, have received the sums of £273 13s., and £261 18s. for their expenses. The payments have been the subject of conversation in the House of Commons."

ARTIFICIAL SMALLPOX is an amusing expedient for escaping from prison. A Tombs prisoner, having procured croton oil, sprinkled it on his face and hands, causing pustules, which looked so very like smallpox that he was on the point of being removed to Bellevue Hospital. Four others tried the game, but the thing didn't happen to work and the scare subsided.

DR. NELATON, the eminent French surgeon, is reported to be in failing health, caused by an internal tumor which cannot be reached or cured. In the patient expectation of death, the afflicted gentleman beguiles the time by translating "The Odyssey."

BOOKS RECEIVED.—A Year-Book of Therapeutics, Pharmacy and Allied Sciences. Edited by Horatio G. Wood, Jr., M.D. New York: W. Wood & Co. 1872. (From the Publishers.)—Medical Register of New York and Vicinity, 1872-'73. A. E. M. Purdy, M.D., Editor. New York: W. Wood & Co. 1872. (From the Publishers.)

Deaths in seventeen Cities and Towns of Massachusetts, for the week ending July 13, 1872.

Cities and Towns.	No. of Deaths.	Newburyport	4
Boston	216	Somerville	7
Charlestown	10	Haverhill	5
Worcester	23	Holyoke	20
Lowell	29		446
Milford	7		
Chelsea	4		
Cambridge	38	Cholera Infantum	138
Salem	13	Consumption	46
Lawrence	25	Dysentery & Diarrhoea	15
Springfield	21	Pneumonia	15
Lynn	13	Typhoid fever	11
Fitchburg	5	Measles	8
Taunton	6		

Boston reports nine deaths from smallpox. Of the deaths from cholera infantum, sixty-two were in Boston, twelve in Cambridge, ten in Lawrence, nine in Holyoke and nine in Springfield. Of the deaths from typhoid fever, six were in Lowell. Of the deaths from measles, six were in Holyoke.

GEORGE DERRY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, July 13th, 216. Males, 132; females, 84. Accident, 7—apoplexy, 2—Inflammation of the bowels, 6—Inflammation of the brain, 1—congestion of the brain, 4—disease of the brain, 9—burned, 2—cancer, 3—cerebro-spinal meningitis, 2—cholera infantum, 62—cholera morbus, 3—consumption, 14—convulsions, 1—croup, 1—debility, 3—diarrhoea, 11—dropsy, 1—dropsey of the brain, 3—drowned, 4—dysentery, 1—exhaustion, 1—scarlet fever, 1—typhoid fever, 4—gastritis, 2—disease of the heart, 4—insanity, 1—intemperance, 1—jaundice, 1—homicide, 1—disease of the kidneys, 1—disease of the liver, 1—inflammation of the lungs, 10—malignant pustule, 1—marasmus, 17—old age, 4—paralysis, 1—pelvic cellulitis, 1—puerperal disease, 1—pyæmia, 1—suicide, 2—smallpox, 9—sunstroke, 6—teething, 1—trismus nascentium, 1—whooping cough, 1—unknown, 2.

Under 5 years of age, 124—between 5 and 20 years, 12—between 20 and 40 years, 42—between 40 and 60 years, 22—above 60 years, 16. Born in the United States, 165—Ireland, 31—other places, 20.